



FOR THE SCOPE OF
ACCREDITATION UNDER NVLAP LAB
CODE 100402-0.

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100572494

Original Issue Date: January 3, 2012

Revision Date: August 13, 2012

REPORT NO. 100572494CRT-007

TEST OF ONE FLUORESCENT FIXTURE

FIXTURE MODEL NO. 105-TRR-48-HE-PL-AL

RENDERED TO

VODE LIGHTING LLC
1206 EAST MACARTHUR SUITE 3
SONOMA, CA 95476

Revision Note August 13, 2012: This report was revised to correct IES file data.

TEST: Electrical and Photometric tests as required to the IESNA test standard.

LABORATORY NOTE: The laboratory that conducted the testing detailed in this report has been Qualified, Verified, and Recognized for LM-79 Testing for ENERGY STAR for SSL by US DOE's CALiPER program.

STATEMENT OF LIMITATION: This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

AUTHORIZATION: The testing performed was authorized by signed quote number 500339719.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

IESNA LM-54: 1999 Guide to Lamp Seasoning

IESNA LM-41: 1998 Approved Method for Photometric Testing of Indoor Fluorescent Luminaires

DESCRIPTION OF SAMPLE: The client submitted one sample of model number 105-TRR-48-HE-PL-AL. The sample was received by Intertek on November 23, 2011, in undamaged condition, and one sample was tested as received. The sample designation was V238802-9.

DATES OF TESTS: December 15, 2011.

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SUMMARY

Model No.: 105-TRR-48-HE-PL-AL
Description: Fluorescent Fixture

Criteria	Result
Total Lumen Output	1204 Lumens
Total Power	28.53 W
Luminaire Efficacy	42.20
Power Factor	0.954

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Calibration Date	Calibration Due Date
Leeds & Northup Standard Resistor	Manganin	Y089	02/24/12	02/24/13
Data Precision Digital Voltmeter	3600	V124	02/24/12	02/24/13
Fluke Multimeter	45	M133	02/24/12	02/24/13
Fluke Temperature Meter	53 II	T1318	03/12/12	03/12/13
Kikusui DC Power Supply	35-10L	E160	---	---
Sorenson DC Power Supply	DLM150-20E	--	---	---
NIST Spectral Flux Standard Source	RF1024	---	09/18/10	100 hours of use
Elgar AC Power Supply	CW1251	--	--	--
Yokogawa Power Meter	WT210	E464	04/19/11	04/19/12*
LSI High Speed Mirror Goniometer	6440	--	04/13/12	05/13/12*
Cole Parmer Hygro Thermometer	445703	T1359	10/26/11	10/26/12*

*Testing using this equipment was completed 12/15/11.

TEST METHODS

Seasoning in Each Burn Orientation

The photometric tests were performed after the lamps were seasoned. Before the photometric tests, each lamp was operated in its designated orientation on the appropriate ballast for a time period greater than 100 hours in accordance with IESNA LM-54 Guide to Lamp Seasoning.

Photometric and Electrical measurements – Distribution Method

A LSI Type C High Speed Model 6440 Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for each sample.

Ambient temperature was measured equal to the height of the sample mounted on the Goniometer equipment. Each sample was operated at input rated voltage in its designated orientation. Each sample was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

Some graphics were created with Photometrics Plus software.

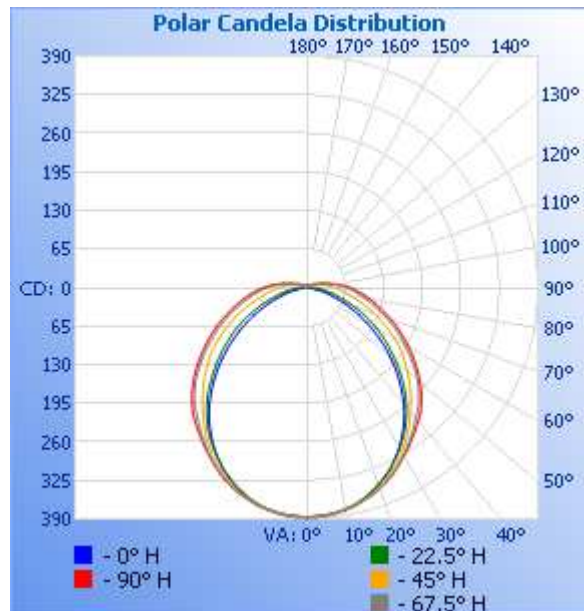
RESULTS OF TESTS

Photometric and Electrical Measurements – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
V238802-9	LINEAR	277.0	108.0	28.53	0.954	1204	42.20

Intensity (Candlepower) Summary at 25°C - Candelas

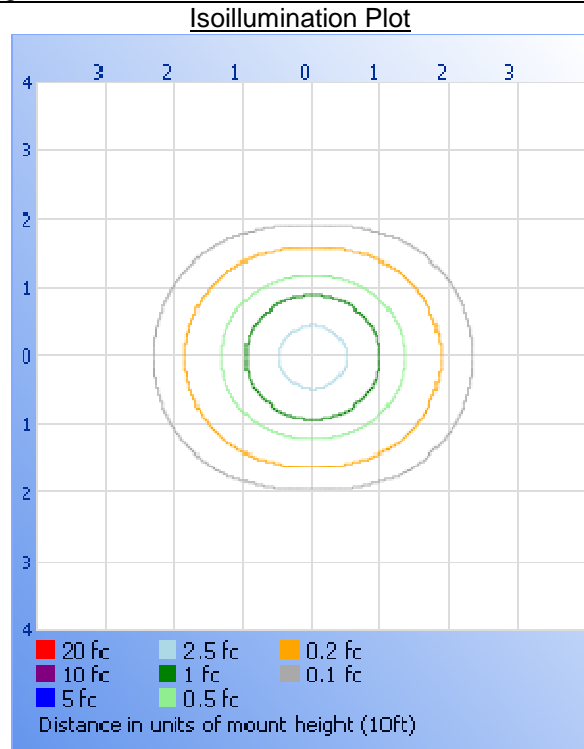
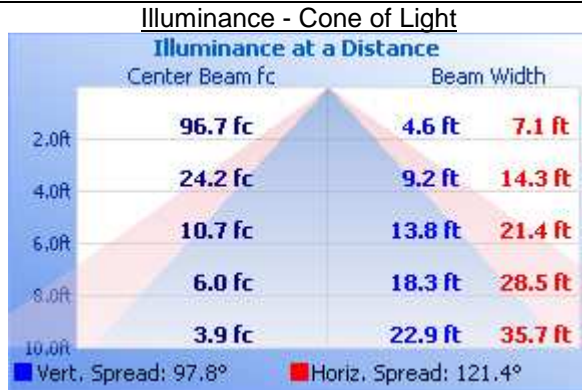
Angle	0	22.5	45	67.5	90
0	387	387	387	387	387
5	386	385	386	384	384
10	380	379	380	379	380
15	370	368	371	371	372
20	354	353	357	360	361
25	335	335	341	344	346
30	312	314	321	326	328
35	285	290	298	306	310
40	255	262	272	287	293
45	221	231	248	268	274
50	186	198	223	244	250
55	151	166	198	217	224
60	116	136	170	190	198
65	84	106	143	165	173
70	55	77	118	141	149
75	33	53	94	118	127
80	16	36	74	99	108
85	4	23	60	82	90
90	0	14	48	68	74
95	0	9	37	52	56
100	0	7	27	37	40
105	0	5	18	25	27
110	0	4	12	18	20
115	0	4	9	13	15
120	0	4	3	11	12
125	0	4	4	4	10
130	0	3	6	2	1
135	0	3	6	4	1
140	0	3	6	7	7
145	0	3	5	6	6
150	0	2	4	6	6
155	1	2	3	4	6
160	1	2	3	3	3
165	1	1	2	3	3
170	1	1	1	2	2
175	1	1	1	0	0
180	1	1	1	1	1



RESULTS OF TESTS (cont'd)

Illumination Plots

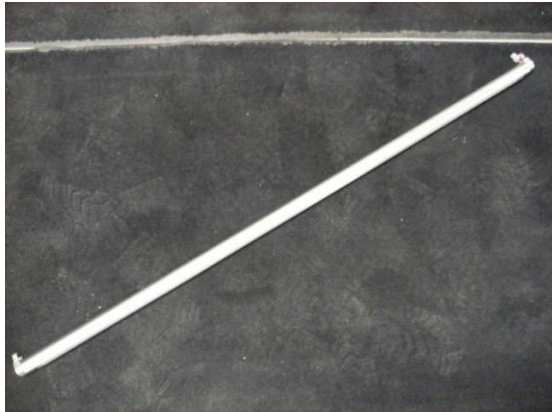
Mounting Height: 10 ft.



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Lamp	% Luminaire
0-30	297.5	10.3	24.7
0-40	483.7	16.7	40.2
0-60	847.0	29.2	70.3
60-90	285.1	9.8	23.7
0-90	1132	39.0	94.0
90-180	71.9	2.5	6.0
0-180	1201	41.5	100.0

Pictures (not to scale)



CONCLUSION

The results tabulated in this report are representative of the actual test samples submitted for this report only. The data is provided to the client for further evaluation. Compliance to the referenced specification requirements was not determined in this report.

In Charge Of Tests:



Kenda Branch
Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Jacki Swiernik
Staff Engineer
Lighting Division